

## ABSTRACT

A carbonate spring producing system includes a gas-liquid separator (6) which is connected on the downstream side of a carbonic acid gas dissolver (4). A carbonic acid gas supply means (10) and hot water supply means are connected to the carbonic acid gas dissolver (4). A liquid lead-out pipe (5) is connected to the gas-liquid separator. Preferably an un-dissolved carbonic acid gas lead-out pipe (23) is connected on the upstream sides of the gas-liquid separator (6) and the carbonic acid gas dissolver (4). The un-dissolved carbonic acid gas lead-out pipe (23) includes a control valve (25), a compressor (27), and a liquid level detection means (22). The control valve (25) controls a flow rate of un-dissolved carbonic acid gas from the gas-liquid separator. The liquid level detection means (22) measures a liquid level of the gas-liquid separator. Control means (28) controls the flow rate of the supplied carbonic acid gas and the flow rate of the supplied un-dissolved carbonic acid gas based on the gas-liquid separator liquid level detected by the detection means (22). An amount of un-dissolved carbonic acid gas in the gas-liquid separator is always monitored, so that the un-dissolved carbonic acid gas in the hot water can securely be separated and removed by the gas-liquid separator, and the separated and removed un-dissolved carbonic acid gas can be redissolved.